SESSION V
COMPLIANCE THROUGH P^2 INITIATIVES

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Lessons Learned: Compliance Through P^2

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Why compliance through P2 now?

We've been doing both - and quite successfully according to the data we use to measure our progress. Measuring the data? That's one key right there - the data we measure our progress with! Is it the right data? Is the data correct? For P^2 progress, we measure EPA-17 or AFMC-24, ODS, hazardous waste, and others. These measurements are based on very specific waste streams and we have made a lot of progress in these areas. But there are two main problems with these measurements:

- *They are not related in any way to processes or activity levels. When our activities change, the changes but we don't see the trends.*
- *They lead to P^2 programs based on hindsight because they focus on waste generation.*
- *They are no longer related to today's compliance issues.*

Old P^2 programs lead to reductions in the waste measured but, as activities changed and new compliance issues unfolded, dollars spent for compliance continued to rise. Focusing on waste quantities not related in any way to activity levels does help us with today's compliance issues, such as current quantitative permit conditions, but it doesn't help with qualitative conditions nor with forecasting future compliance issues. By shifting the focus to compliance issues first, we focus on qualifiable regulatory issues before deciding what our P^2 priorities are. Then we can choose the data we need to track our progress.

Today's business climate necessitates a change in how we approach environmental problems. Billions of dollars are spent each year to cleanup past improper disposal practices and old problems. The lesson learned is that pollution costs us more than money. Pollution costs us - for treatment, for transportation and disposal, and potentially for cleanup. And yet, billions of pounds of toxic materials continue to be released annually into streams, air and onto land as evidenced by the annual SARA TRI reports. These billions of pounds represent expensive raw materials, lost productivity, and inefficient processes. The loss of these materials to the environment also represents long term liabilities and intangible costs. Pollution prevention programs began as extensions of waste minimization programs that are specifically directed at reducing the generation and disposal of hazardous waste. Today, effective P^2 strategies focus on elimination rather than reduction; P^2 combines regulatory compliance with continuous improvement, materials management, and total cost accounting.

Why P^2 to solve the problem? Because we see a fundamental change at EPA - an aggressive thrust toward multi-media programs that will prevent waste as a first approach and achieve compliance in a simple yet cost-effective way. P^2 was once a voluntary exercise - now it is a business necessity. And a strong program will enable you to:

- Eliminate the need for compliance

Or, failing that,

- Lower equipment and raw material costs
- Lower treatment and disposal costs
- Lower compliance costs
- Improve management and operating costs
- Improve productivity
- Minimize liabilities and cleanup costs
- And earn the trust of your regulators and community

Where do we start?

The compliance issues need to be considered first. Figure 1 illustrates a partial compliance matrix for a small Air Force Base. Present and future compliance issues are listed horizontally; waste streams by process area are listed vertically. Ranking the importance of each issue is often site-specific. One set of ranking criteria could be as follows:

1. Compliance importance (regulatory or otherwise)
2. Potential cost of solution
3. Simplicity of solution
4. Potential implementation success

Qualitative numbers would have to be generated for these criteria to allow the rankings. Using these, we can prioritize processes and their waste against compliance issues. Once prioritized, the P^2 process can begin.

Opportunity assessments, options development, and feasibility analysis follow.

Case Studies

Where do we end up? Today's environmental climate necessitates the use of different tools to develop and analyze our options. Past P^2 opportunities were analyzed on the basis of technical feasibility, waste elimination or reduction, and cost. This presentation will look at three cases where our decisions might have been different if our tools had been modified to account for compliance upfront and to consider our data needs differently.

Figure 1

REGULATORY COMPLIANCE MATRIX

RUST PROJECT NO. .....

COMPLIANCE ITEM		REGULATORY									
		AIR							WASTE		
		STATE		FEDERAL		ATTAIN/ NONATTAIN	ENFORCEMENT ACTIONS	NPDES	RCRA		SOLID WASTE
WASTESTREAM	SUM OF PRIORITY RANKINGS	CONSTRUCTION PERMIT CONDITIONS	OTHER	TITLE III	TITLE V				HAZARDOUS WASTE	PCBs	
CONTRACTOR OPERATED PARTS STORE	0										
	0										
ENTOMOLOGY SHOP											
Pesticides	3								3		
FIREFIGHTING											
Halon	2		2								
MEDICAL	3										3
Biohazards	0										
Hazardous Waste	0										
Radiology	0										
MISCELLANEOUS											
Lab Packs	4								2		2
PAINT SHOP											
Air Emissions	1				1						
Crushed Paint Cans	2										2
etc	0										
	1								1		
	1								1		
PHARMACY											
Hazardous Waste	0										
Materials shelf life	1								1		
	0										
Etc.											
	1				1						
	4								2		2
	0										
	1								1		
	3.5								1.5		2
	4								2		2
TRANSPORTATION AREA & WHEEL/TIRE SHOP											
	2								1		1
	4.5								2		2.5
	2.5								1.5		1
	2										2
	2										2
UTILITY OPERATIONS											
	1				1						
	0										
	0										
	0										
	0										2
	2										1.5
	1.5										3
	3										3
	3										
	3						3				
	6						3				3
	6						3	3			
WEAPONS SYSTEMS/MAINTENANCE SHOP											

Figure 1

REGULATORY COMPLIANCE MATRIX

RUST PROJECT NO. .....

COMPLIANCE ITEM / WASTESTREAM	SUM OF PRIORITY RANKINGS	REGULATORY									
		AIR							WASTE		
		STATE		FEDERAL		ATTAIN/ NONATTAIN	ENFORCEMENT ACTIONS	NPDES	RCRA		SOLID WASTE
		CONSTRUCTION PERMIT CONDITIONS	OTHER	TITLE III	TITLE V				HAZARDOUS WASTE	PCBs	
	1				1						
	2										2
	2		2								
	2								1		1
	2								1		1
	6								3		3
	3				3						
	2										2
	2		2								
	1								1		
	1								1		
	2								1		1
	2								1		1
	2								1		1
	1								1		
	1								1		
	1				1						
	2										2
	0										
	1								1		
	1								1		

Designate Priority As